

10/758,794

=> d his; d tot ibib abs hitstr

(FILE 'HOME' ENTERED AT 13:37:29 ON 09 DEC 2005)

FILE 'REGISTRY' ENTERED AT 13:38:59 ON 09 DEC 2005

L1 SCREEN 964  
L2 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L3 STRUCTURE UPLOADED  
L4 QUE L3 AND L1 AND L2  
L5 8 S L4 FUL

FILE 'CAPLUS' ENTERED AT 13:40:39 ON 09 DEC 2005

L6 6 S L5  
L7 3332127 S PY>2002  
L8 6 S L6 NOT L7

FILE 'REGISTRY' ENTERED AT 13:47:12 ON 09 DEC 2005

L9 SCREEN 1015  
L10 STRUCTURE UPLOADED  
L11 QUE L10 AND L9  
L12 0 S L11 FUL  
L13 SCREEN 1015  
L14 STRUCTURE UPLOADED  
L15 QUE L14 AND L13  
L16 0 S L15 FUL  
L17 SCREEN 964  
L18 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L19 STRUCTURE UPLOADED  
L20 QUE L19 AND L17 AND L18  
L21 0 S L20  
L22 0 S L20 FUL  
L23 STRUCTURE UPLOADED  
L24 QUE L23  
L25 0 S L24 FUL  
L26 SCREEN 964 AND 1015  
L27 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L28 STRUCTURE UPLOADED  
L29 QUE L28 AND L26 AND L27  
L30 0 S L29 FUL  
L31 SCREEN 964 AND 1015  
L32 SCREEN 964 AND 1015  
L33 SCREEN 964  
L34 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L35 STRUCTURE UPLOADED  
L36 QUE L35 AND L33 AND L34  
L37 0 S L36 FUL  
L38 SCREEN 964  
L39 SCREEN 966 AND 1015  
L40 SCREEN 966 AND 1015  
L41 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L42 STRUCTURE UPLOADED  
L43 QUE L42 AND L40 AND L41  
L44 9 S L43 FUL

FILE 'CAPLUS' ENTERED AT 14:25:53 ON 09 DEC 2005

L45 4 S L44

L45 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:812765 CAPLUS

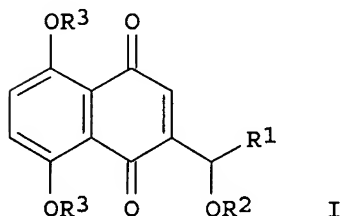
DOCUMENT NUMBER: 123:227829

TITLE: Preparation of shikonin analogs as anticancer agents

10/758,794

INVENTOR(S): Ahn, Byung Zun; Baik, Kyong Up  
PATENT ASSIGNEE(S): S. Korea  
SOURCE: PCT Int. Appl., 120 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9502572	A1	19950126	WO 1994-KR91	19940713
W: AM, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LT, LV, MD, MG, MN, NO, NZ, PL, PT, RO, RU, SI, SK, TJ, TT, UA, US, UZ, VN				
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2144518	AA	19950126	CA 1994-2144518	19940713
AU 9472397	A1	19950213	AU 1994-72397	19940713
EP 662073	A1	19950712	EP 1994-921858	19940713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1112363	A	19951122	CN 1994-190494	19940713
JP 08501806	T2	19960227	JP 1994-504478	19940713
US 5696276	A	19971209	US 1995-403716	19950314
PRIORITY APPLN. INFO.:			KR 1993-13227	A 19930714
			WO 1994-KR91	W 19940713
OTHER SOURCE(S):			MARPAT 123:227829	
GI				



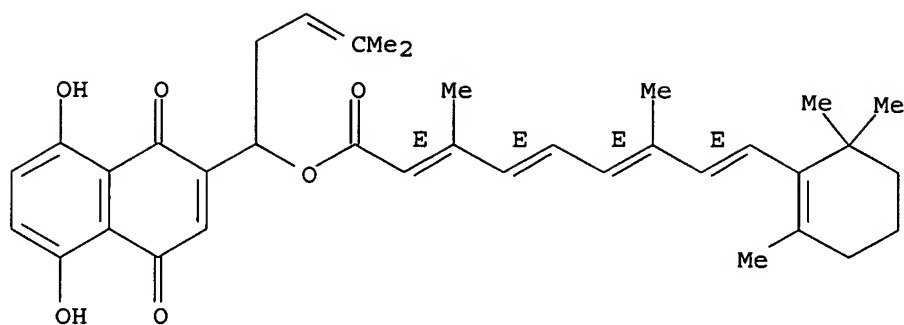
AB Title compds. [I; R<sub>1</sub> = alk(en)yl; R<sub>2</sub> = H, alkyl, alkanoyl, aroyl, etc.; R<sub>3</sub> = H, alkyl] were prepared. Thus, I (R<sub>1</sub> = CH<sub>2</sub>CH<sub>2</sub>CMe<sub>2</sub>, R<sub>3</sub> = H) (II; R<sub>2</sub> = H) was O-acylated to give II (R<sub>2</sub> = Ac) which gave survival of S-180 sarcoma cell inoculated mice 188% that of controls at 5μmol/kg/day i.p.

IT 168393-27-9P 168393-28-0P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of shikonin analogs as anticancer agents)

RN 168393-27-9 CAPLUS

CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester (9CI) (CA INDEX NAME)

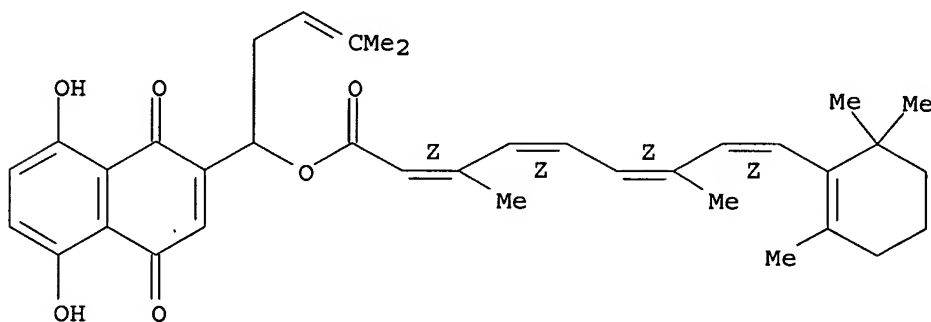
Double bond geometry as shown.



RN 168393-28-0 CAPLUS

CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, (all-cis)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L45 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:413297 CAPLUS

DOCUMENT NUMBER: 122:239424

TITLE: Acylshikonin Analogs: Synthesis and Inhibition of DNA Topoisomerase-I

AUTHOR(S): Ahn, Byung-Zun; Baik, Kyong-Up; Kweon, Gi-Ryang; Lim, Kyu; Hwang, Byung-Doo

CORPORATE SOURCE: Colleges of Pharmacy and Medicine, Chungnam National University, Taejon, 305-764, S. Korea

SOURCE: Journal of Medicinal Chemistry (1995), 38(6), 1044-7  
CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective acylation at 1'-OH of shikonin in the presence of dicyclohexylcarbodiimide and 4-(dimethylamino)pyridine gave rise to a good yield of acylshikonin derivs. which were evaluated for inhibitory effect on topoisomerase-I activity. In general, analogs with an acyl group of shorter chain lengths (C2-C6) exerted a stronger inhibitory action than those with longer chain lengths (C7-C20). While halogen substitution at C-2 of the acetyl moiety failed to increase the inhibitory potency, the placement of double bonds in the acyl group (C5-C7) augmented the potency remarkably. Of the 32 derivs. evaluated, 15 compds. exhibited a higher inhibitory effect than shikonin. Noteworthy, the inhibitory potency of acetylshikonin, propanoylshikonin, and 4-pentenoylshikonin was approx. 4-fold greater than that of camptothecin. All these data suggest that the size of the acyl moiety is important for the enhancement of potency, and the presence of olefinic double bonds is also beneficial.

IT 162283-95-6P 162425-95-8P

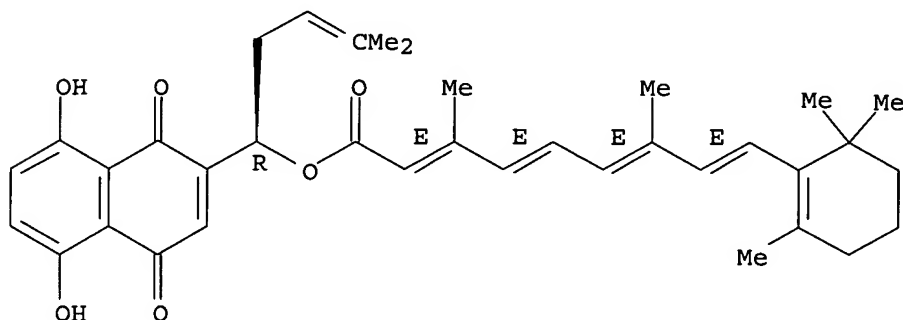
10/758,794

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(preparation and DNA topoisomerase-I inhibiting activity of acylshikonins)

RN 162283-95-6 CAPLUS

CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, [15(R)]- (9CI) (CA INDEX NAME)

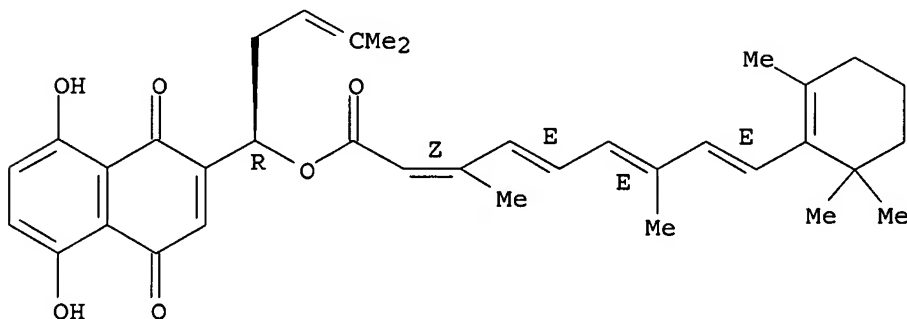
Absolute stereochemistry.  
Double bond geometry as shown.



RN 162425-95-8 CAPLUS

CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, [13-cis,15(R)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



L45 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:631159 CAPLUS

DOCUMENT NUMBER: 121:231159

TITLE: Preparation of 1-acyloxyvitamin D derivatives as pharmaceuticals

INVENTOR(S): Tachibana, Yoji

PATENT ASSIGNEE(S): Nisshin Flour Milling Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

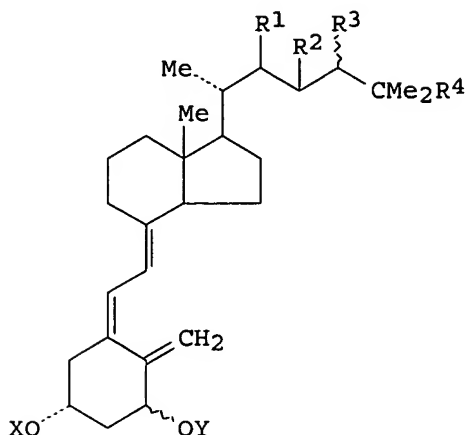
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06009547	A2	19940118	JP 1992-169049	19920626
JP 3182215	B2	20010703		



I

AB The title compds. I (X = H, vitamin A acid residue; Y = vitamin A acid residue; R1, R2 = H; R1R2 may form C-C bond; R3 = H, C1-4 alkyl, OX; R4 = H, OH), useful for treatment of osteoporosis, skin ulcer, and cancer (no data), are prepared Treatment of 300 mg all-trans-vitamin A acid with trifluoroacetic anhydride in iso-Pr ether and THF solution of 400 mg I (R1-R4 = H, X = tert-butyldimethylsilyl, OY =  $\alpha$ -OH) at room temperature for 2 h gave 440 mg the corresponding ester, which was treated with Bu4NF in THF at room temperature for 3 h to afford 230 mg I (R1-R4 = X = H, OY =  $\alpha$ -retinoyloxy).

IT 157356-13-3P 157356-14-4P

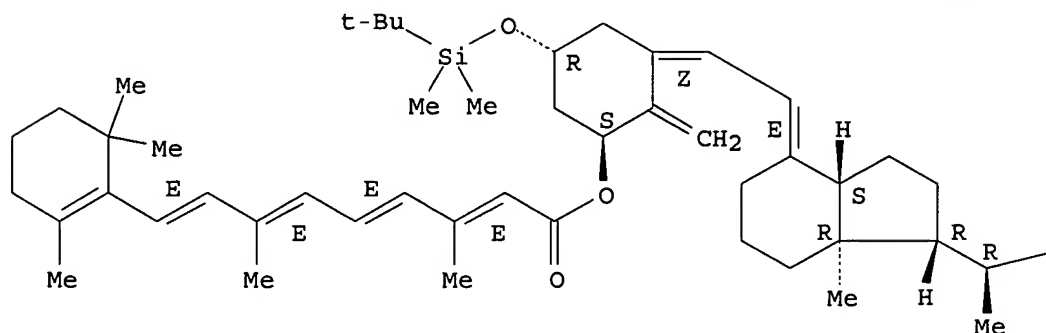
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of)

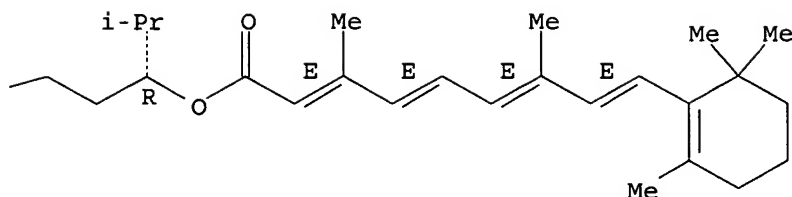
RN 157356-13-3 CAPLUS

CN Retinoic acid, (1 $\alpha$ ,3 $\beta$ ,5Z,7E,24R)-3-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-9,10-secocholesta-5,7,10(19)-triene-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

PAGE 1-A

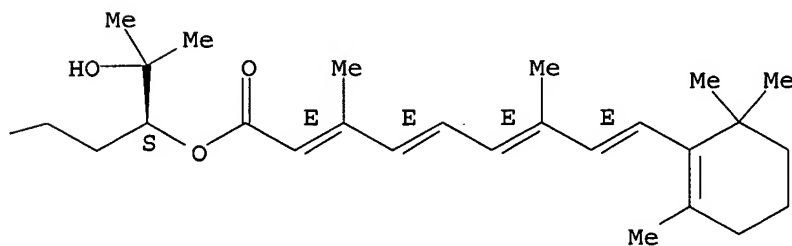
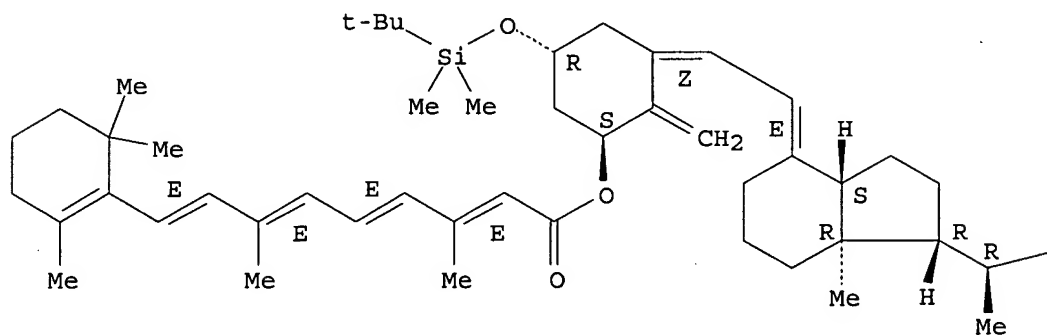




RN 157356-14-4 CAPLUS

CN Retinoic acid, (1 $\alpha$ ,3 $\beta$ ,5Z,7E,24S)-3-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-9,10-secocholesta-5,7,10(19)-triene-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



IT 157355-89-0P 157355-91-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of, as pharmaceutical)

10/758,794

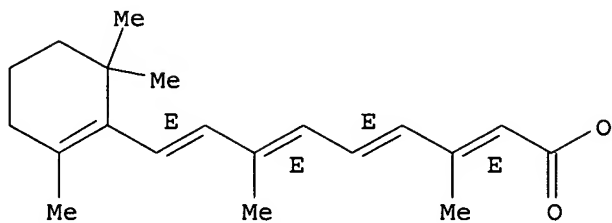
RN 157355-89-0 CAPLUS

CN Retinoic acid, (1 $\alpha$ ,3 $\beta$ ,5Z,7E,24R)-9,10-secocholesta-5,7,10(19)-  
triene-1,3,24-triyl ester (9CI) (CA INDEX NAME)

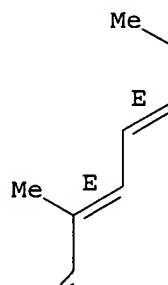
Absolute stereochemistry.

Double bond geometry as shown.

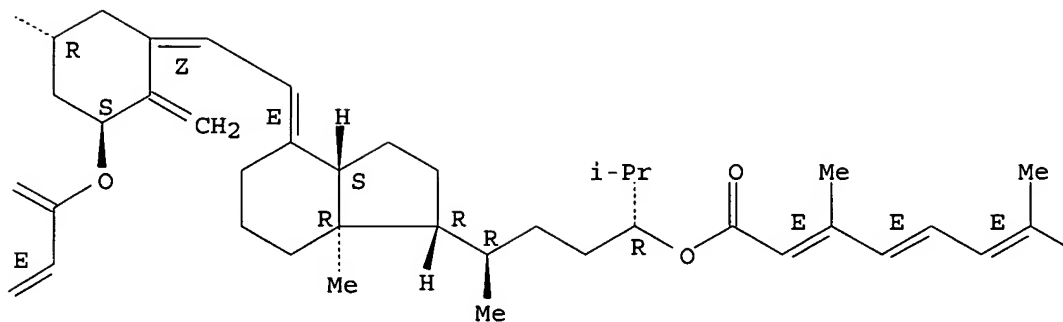
PAGE 1-A

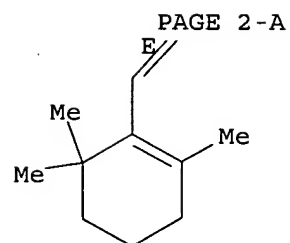
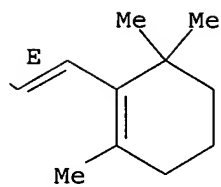


O



PAGE 1-B





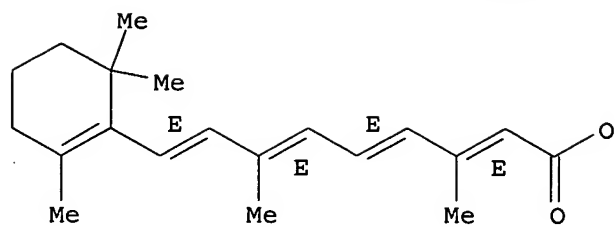
RN 157355-91-4 CAPLUS

CN Retinoic acid, (1 $\alpha$ ,3 $\beta$ ,5Z,7E,24S)-9,10-secocholesta-5,7,10(19)-triene-1,3,24-triyl ester (9CI) (CA INDEX NAME)

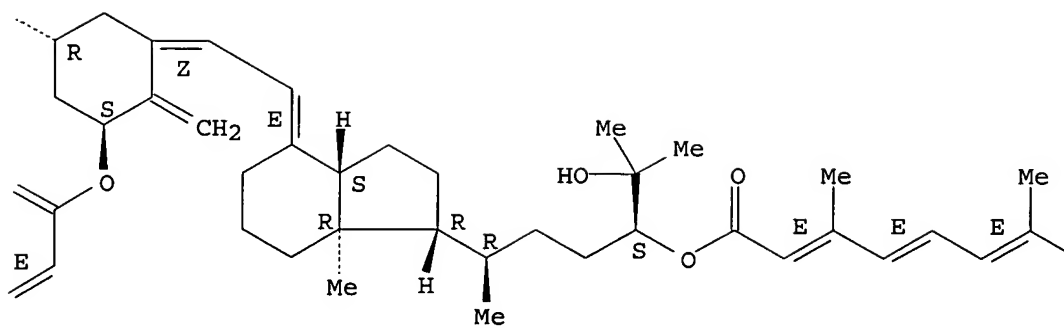
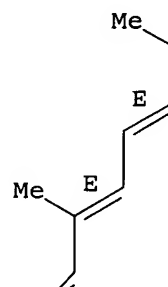
Absolute stereochemistry.

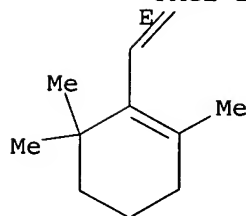
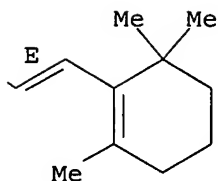
Double bond geometry as shown.





O





L45 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1975:593554 CAPLUS  
 DOCUMENT NUMBER: 83:193554  
 TITLE: Vitamin A acid esters  
 INVENTOR(S): Koyama, Hiroyasu; Kato, Teruhiko; Komatsu, Yasuhiro;  
 Kawase, Shigeo  
 PATENT ASSIGNEE(S): Nisshin Flour Milling Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50076047	A2	19750621	JP 1973-124476	19731107
JP 58027266	B4	19830608		

PRIORITY APPLN. INFO.: JP 1973-124476 A 19731107

GI For diagram(s), see printed CA Issue.

AB Vitamin A acid (I) esters II (R = C5-20 saturated or unsatd. hydrocarbon residue) were prepared by treating I or its functional derivs. with alcs. ROH. II were effective against AcOH-induced peptic ulcer and skin wound in rats with less i.p. toxicity than I. Thus, a mixture of 3.9 g geraniol, 4.1 g dicyclohexylcarbodiimide, and 0.05 g CuCl was stirred at 80° for 0.5 hr under N and refluxed with 6 g I in 12 ml C6H6 at 100-10° for 5 hr to give II (R = geranyl). Also prepared were II where R = sec-pentyl, pentyl, 4-ethyl-1-isobutyloctyl, farnesyl, and phytyl.

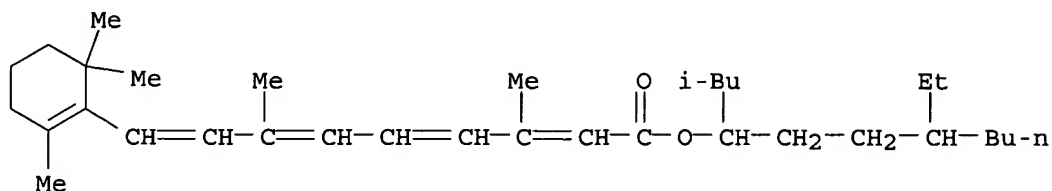
10/758,794

IT 57232-28-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 57232-28-7 CAPLUS

CN Retinoic acid, 4-ethyl-1-(2-methylpropyl)octyl ester (9CI) (CA INDEX  
NAME)



=> d his

(FILE 'HOME' ENTERED AT 20:12:43 ON 09 DEC 2005)

FILE 'REGISTRY' ENTERED AT 20:12:51 ON 09 DEC 2005

L1 SCREEN 966 AND 1015  
L2 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L3 STRUCTURE UPLOADED  
L4 QUE L3 AND L1 AND L2  
L5 30 S L4 FUL

FILE 'CAPLUS' ENTERED AT 20:14:59 ON 09 DEC 2005

L6 20 S L5/P

FILE 'REGISTRY' ENTERED AT 20:28:02 ON 09 DEC 2005

L7 SCREEN 966 AND 1015  
L8 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L9 STRUCTURE UPLOADED  
L10 QUE L9 AND L7 AND L8  
L11 5 S L10 FUL

FILE 'CAPLUS' ENTERED AT 20:29:05 ON 09 DEC 2005

L12 4 S L11/P  
SELECT L12 1-4 PN

FILE 'USPATFULL' ENTERED AT 20:32:46 ON 09 DEC 2005

L13 3 S E1-13

FILE 'REGISTRY' ENTERED AT 20:49:56 ON 09 DEC 2005

L14 SCREEN 966 AND 1015  
L15 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L16 STRUCTURE UPLOADED  
L17 QUE L16 AND L14 AND L15  
L18 3 S L17 FUL

FILE 'CAPLUS' ENTERED AT 20:50:43 ON 09 DEC 2005

L19 3 S L18/P

FILE 'REGISTRY' ENTERED AT 20:51:55 ON 09 DEC 2005

L20 SCREEN 966 AND 1015  
L21 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L22 STRUCTURE UPLOADED  
L23 QUE L22 AND L20 AND L21  
L24 1 S L23 FUL

10/758,794

L25 SCREEN 966 AND 1006 AND 1015  
L26 SCREEN 1821 OR 1822 OR 1823 OR 1824  
L27 STRUCTURE UPLOADED  
L28 QUE L27 AND L25 AND L26  
L29 2 S L28 FUL

FILE 'CAPLUS' ENTERED AT 20:54:16 ON 09 DEC 2005

L30 3 S L24/P  
L31 7 S L29/P  
L32 7 S L30 OR L31